

ALGEBRA I PART I  
UNIT I REVIEW

NAME \_\_\_\_\_  
DATE \_\_\_\_\_ BL \_\_\_\_\_

**NUMERIC AND ALGEBRAIC EXPRESSIONS**  
Evaluate each expression.

1.  $12 \div 4 \cdot 2(-1) \div 6$

$3 \cdot 2(-1) \div 6$   
 $6(-1) \div 6$   
 $-6 \div 6$   
 $-1$

2.  $2 \cdot \{6 \cdot [3 - (-4)]\}$

$2 \{6[3+4]\}$   
 $2 \{6[7]\}$   
 $2(6 \cdot 7)$   
 $2(42)$   
 $84$

3.  $\frac{9^2 - 3^2}{(-2)^4 + 2} = \frac{81 - 9}{16 + 2} = \frac{72}{18} = 4$

Evaluate if  $m = -2$ ,  $p = 5$ , and  $r = -3$ .

4.  $3m - 5p + 4m$

$3(-2) - 5(5) + 4(-2)$   
 $-6 - 25 + (-8)$   
 $-31$

5.  $|2p| - 6r$

$|2 \cdot 5| - 6 \cdot (-3)$   
 $|10| + 18$   
 $10 + 18$   
 $28$

6.  $\frac{6r - r^2}{5m}$

$\frac{6 \cdot (-3) - (-3)^2}{5(-2)} = \frac{-18 - 9}{-10} = \frac{-27}{-10} = 2.7$

Simplify each algebraic expression.

7.  $7x + 4y - (-3x) + 5x$

$7x + 4y + 3x + 5x$   
 $15x + 4y$

8.  $5(2x - 5) + 5x - 6$

$10x - 25 + 5x - 6$   
 $15x - 31$

9.  $4(x + 6) - 5(x - 2)$

$4x + 24 - 5x + 10$   
 $-x + 34$

**MATCHING**

Match each equation with the number property it illustrates. Each property will only be used once.

H 10.  $x + 0 = x$

A. Additive Inverse Property

G 11.  $ab = ba$

B. Multiplicative Inverse Property

C 12.  $5(x + 7) = 5x + 35$

C. Distributive Property of Multiplication

I 13.  $x + 12 = x + 12$

D. Symmetric Property

L 14.  $x(1) = x$

E. Associative Property of Multiplication

F 15.  $(2 + x)0 = 0$

F. Zero Property of Multiplication

K 16.  $(x + 7) + y = (7 + x) + y$

G. Commutative Property of Multiplication

E 17.  $8(xy) = (8x)y$

H. Additive Identity Property

B 18.  $\frac{1}{2} \cdot 2 = 1$

I. Reflexive Property

A 19.  $a + (-a) = 0$

J. Transitive Property

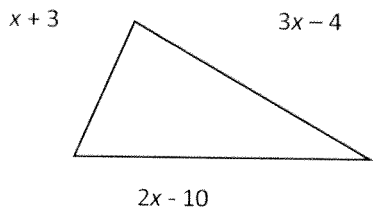
D 20. If  $3x - 2 = 10$ , then  $10 = 3x - 2$

K. Commutative Property of Addition

J 21. If  $a = b$  and  $b = c$ , then  $a = c$

L. Multiplicative Identity Property

22. Find the perimeter of the triangle.



$$\underline{1x+3} + \underline{3x-4} + \underline{2x-10}$$

$$6x-11$$

23. A triangle's sides are  $3x - 4$ ,  $x + 3$  and  $2x - 10$ . Which of the following describes the perimeter?
- a.  $P = 6x - 11$       b.  $P = 6x - 17$       c.  $P = 5x - 11$       d.  $P = 5x + 17$

**Write an expression or equation for the situation.**

24. 9 less than the product of -12 and  $x$        $-12x - 9$
25. -7 increased by  $x$        $-7 + x$
26. 6 more than 2 times a number  $x$        $6 + 2x$
27. five less than four times a number       $4x - 5$
28. three fifths of a number  $d$  cubed       $\frac{3}{5}d^3$

**Simplify each radical.**

29.  $\sqrt{4225}$

65

(31)  $\begin{array}{r} 2 \overline{) 280} \\ 2 \overline{) 140} \\ 2 \overline{) 70} \\ 5 \overline{) 35} \\ 7 \end{array}$

(32)  $\begin{array}{r} 3 \overline{) 375} \\ 5 \overline{) 125} \\ 5 \overline{) 25} \\ 5 \end{array}$

30.  $\sqrt[3]{4913}$

31.  $\sqrt{280}$

$4\sqrt{70}$

32.  $\sqrt[3]{375}$

$5\sqrt[3]{3}$

(33)  $\begin{array}{r} 2 \overline{) 72} \\ 2 \overline{) 36} \\ 2 \overline{) 18} \\ 3 \overline{) 9} \\ 3 \end{array}$

~~xxxxxx~~  
+ 5  
y y y y y y y  
y<sup>3</sup>  $\sqrt{y}$

33.  $\sqrt{72x^{10}y^7}$

$6y^3\sqrt{2y}$